## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent	Application of:	Shen	)	
Serial No.:	<b>New Application</b>		)	
Filed:	To Be Assigned		)	Atty Docket: D5437
For:	Apparatus And N	Method For Evaluating Fuel Injectors	)	•

## **INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Preliminary to the examination of the above-identified application, Applicants wish to bring to the attention of the Examiner the references identified on the attached form PTO-1449, copies thereof being enclosed herewith.

- U.S. Pat. No. 6,546,782 issued to Jose DeLaCruz and Paul Lacey on April 15, 2003 describes a High Temperature Pressurized High Frequency Testing Rig and Test Method.
- U.S. Pat. No. 6,497,223 issued to Taner Tuken, Donald J. Benson, John T. Carroll, III, and Yul J. Tarr on Dec. 24, 2002 describes a Fuel Injection Pressure Control System for an Internal Combustion Engine.
- U.S. Pat. No. 6,443,104 issued to Stefan Simescu, Thomas W. Ryan, III and Daniel W. Dickey on Sep. 3, 2002, describes an Engine and Method for Controlling Homogeneous Charge Homogeneous Charge Compression in a Diesel Engine.
- U.S. Pat. No. 5,412,981 issued to W. Neill Myers, Ewell M. Scott, John C. Forbes and Michael D. Shadoan on May 9, 1995, describes an Apparatus for Testing High Pressure Injector Elements.
- U.S. Pat. No. 5,359,883 issued to Darryl D. Baldwin and Tien D. Doan on Nov. 1, 1994, describes an Apparatus and Method for Analyzing Events for an Internal Combustion Engine.
- U.S. Pat. No. 4,712,421 issued to Jeffrey H. Young on Dec. 15, 1987 describes a Fuel Injector Testing Device.
- U.S. Pat. No. 4,721,247 issued to Julius P. Perr on Jan. 26, 1988 describes a High Pressure Unit Fuel Injector.
- U.S. Pat. No. 4,559,821 issued to Paul Engeler and Peter Wolfer on Dec. 24, 1985, describes a High Pressure Transducer.
- U.S. Pat. No. 4,337,650 issued to Herman F. Brandt on Jul. 6, 1982, describes a Diesel Engine Start of Fuel Injection Detecting System.

U.S. Pat. No. 4,061,027 issued to Reginald Stanley Emerson on Dec. 6, 1977 describes a Fuel Injector Testing Apparatus.

David P. Schmidt, Tzay-Fa Su, Kayhan H. Goney, P. V. Farrell & M. L. Corradini, Detection of Cavitation in Fuel Injector Nozzles (Engine Research Center at the University of Wisconsin).

Timothy J. Callahan & Gary D. Bourn, Investigation of Diesel Spray Penetration, Vaporization, and Combustion in a Pilot-Ignited Natural Gas Engine 03-9074 (Southwest Research Institute 2003).

Standard Test Method for Shear Stability of Polymer Containing Fluids Using a European Diesel Injector Apparatus D6278-02 (ASTM International 2003) <a href="https://www.astm.org">www.astm.org</a>>.

Evaluation of the Mechanical Shear Stability of Lubricating Oils Containing Polymers (Fuel Injection Pump) CEC L-14-A-93 (Co-ordinating European Council 2003) <a href="https://www.cectest.org">www.cectest.org</a>.

An action on the merits is requested.

Respectfully submitted,

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PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

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			CLOSURE	Filing Date	To Be Assigned	
STAT	<b>TEMENT</b>	BY A	PPLICANT	First Named Inventor	Yunbiao Shen	
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(use as many sheets as necessary)		Examiner Name				
Sheet	1	of	2	Attorney Docket Number	D5437	

	 	U.S. PATE	NT DOCUMENTS	
Examiner Initials	 Document Number Number - Kind Code <sup>2</sup> (if known	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
-	US- 6,546,782	4/15/2003	DeLaCruz et al.	rigares rippou.
	US- 6,497,223	12/24/2002	Tuken et al.	
	us- 6,443,104	9/3/2002	Simescu et al.	
	us- 5,412,981	5/9/1995	Myers et al.	
	us- 5,359,883	11/1/1994	Baldwin et al.	
	US- 4,712,421	12/15/1987	Young	
	 us- 4,721,247	1/26/1988	Perr	
	us- 4,559,821	12/24/1985	Engeler et al.	
	us- 4,337,650	7/6/1982	Brandt	
	us- 4,061,027	12/6/1977	Emerson	
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	FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.1	Foreign Patent Document  Country Code 3 - Number 4 - Kind Code 5 (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Τ <sup>є</sup>	

Examiner	Date	
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C mplete if Known Substitute for form 1449B/PTO New Application Application Numb r INFORMATION DISCLOSURE To Be Assigned Filing Date **First Named Inventor** Yunbiao Shen STATEMENT BY APPLICANT **Group Art Unit** (use as many sheets as necessary) **Examiner Name** of Attorney Docket Number D5437 Sheet

	OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS				
Examiner Initials	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>		
		DAVID P. SCHMIDT, TZAY-FA SU, KAYHAN H. GONEY, P.V. FARRELL & M.L. CORRANDINI, "Detection of Cavitation in Fuel Injector Nozzles," (Engine Research Center at the University of Wisconsin).			
		TIMOTHY J. CALLAHAN & GARY D. BOURN, "Investigation of Diesel Spray Penetration, Vaporization, and Combustion in a Pilot-Ignited Natural Gas Engine," 03-9074 (Southwest Research Institute 2003).			
		"Standard Test Method for Shear Stability of Polymer Containing Fluids Using a European Diesel Injector Apparatus," D6278-02 (ASTM International 2003) <www.astm.org>.</www.astm.org>			
		"Evaluation of the Mechanical Shear Stability of Lubricating Oils Containing Polymers," (Fuel Injection Pump) CEC L-14-A-93 (Co-ordinating European Council 2003) <www.cectests.org>.</www.cectests.org>			
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